

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

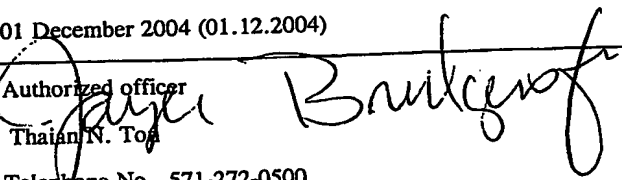
Applicant's or agent's file reference XY-LPRESSPCT	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/US03/24460	International filing date (day/month/year) 01 August 2003 (01.08.2003)	Priority date (day/month/year) 01 August 2002 (01.08.2002)
International Patent Classification (IPC) or national classification and IPC IPC(7): A01N 1/02; G01N 1/30, 33/48; C07K 1/00; A61B 17/43; A61D 7/00 and US Cl.: 435/2, 40.51; 530/827, 852; 600/33, 35		
Applicant XY, INC.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 3 sheets, including this cover sheet.
☐ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of report with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 01 March 2004 (01.03.2004)	Date of completion of this report 01 December 2004 (01.12.2004)
Name and mailing address of the IPEA/US Mail Stop PCT, Attn: IPEA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (703) 305-3230	Authorized officer  Thaian N. Toa Telephone No. 571-272-0500

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/US03/24460

I. Basis of the report

1. With regard to the elements of the international application:*

☒ the international application as originally filed.

☒ the description:

pages 1-24 as originally filed

pages NONE, filed with the demand

pages NONE, filed with the letter of _____.

☒ the claims:

pages 25-35 as originally filed

pages NONE, as amended (together with any statement) under Article 19

pages NONE, filed with the demand

pages NONE, filed with the letter of _____.

☒ the drawings:

pages 1-2 as originally filed

pages NONE, filed with the demand

pages NONE, filed with the letter of _____.

☐ the sequence listing part of the description:

pages NONE as originally filed

pages NONE, filed with the demand

pages NONE, filed with the letter of _____.

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language _____ which is:

☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).

☐ the language of publication of the international application (under Rule 48.3(b)).

☐ the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

☐ contained in the international application in printed form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☐ The amendments have resulted in the cancellation of:

☐ the description, pages NONE

☐ the claims, Nos. NONE

☐ the drawings, sheets/fig NONE

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).

** Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.
PCT/US03/24460

V. Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. STATEMENT

Novelty (N)	Claims <u>1-61</u>	YES
	Claims <u>NONE</u>	NO
Inventive Step (IS)	Claims <u>NONE</u>	YES
	Claims <u>1-61</u>	NO
Industrial Applicability (IA)	Claims <u>1-61</u>	YES
	Claims <u>NONE</u>	NO

2. CITATIONS AND EXPLANATIONS

Claims 1-61 meet the criteria set out in PCT Article 33(4), and thus have industrial applicability because the subject matter claimed can be made or used in industry.

Claims 1-16, 24, 25, 27, 28, 30, 31, 34, 37, 39-54, 58-60 lack an inventive step under PCT Article 33(3) as being obvious over Penfold et al. (Comparative Medicine. 1998. pages 323-327) in view of Beyhan et al. (Theriogenology. 1999. pages 35-48). Penfold teach flow cytometric sorting of X and Y sperm and computer assisted analysis for measuring the sperm motility. Particularly, they teach that bull X and Y sperm were flow sorted. The semen was collected from three bulls. The sperm were in sheath fluid containing PBS. They further teach that the sperm were stained using Hoescht 3342 fluorochrome. Beyhan teach the in vitro fertilization of bovine oocytes utilizing spermatozoa sorted for the X or Y chromosome. Accordingly, in view of the combined teachings, it would have been obvious for one of ordinary skill in the art to generate a sperm cell insemination sample in a bovine species, as presently claimed. One of skill in the art would have been motivated to make specific modifications, as presently claimed embodiments of particular buffers, because it would be routine to optimize such conditions. One of ordinary skill would have been sufficiently motivated to do so because of the art-recognized goal of producing gender preselected livestock.

Claims 1-9, 17-24, 26, 27, 29, 30, 32, 33, 35, 36, 38, 41, 43-61 lack an inventive step under PCT Article 33(3) as being obvious over Rathi et al. (Biol. Of Reproduction. 2001. Pages 462-470) in view of Buchanan et al. (Theriogenology. 2000. pages 1333-1344). Rathi teach the flow cytometric sorting of stallion sperm which utilizes merocyanine staining to assess capacitation status. Buchanan teach the sorting of X and Y chromosome bearing stallion sperm utilizing Hoechst 33342. These sorted sperm were then used to inseminate mares. Accordingly, in view of the combined teachings, it would have been obvious for one of skill in the art to generate a sperm cell insemination sample in an equine species, as presently claimed. One of skill in the art would have been motivated to make specific modifications, as presently claimed embodiments of particular buffers, because it would be routine to optimize such conditions. One of ordinary skill would have been sufficiently motivated to do so because of the art-recognized goal of producing gender preselected livestock.